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ABSTRACT

This booklet is part of the National Institute of Mental Health's efforts to educate the public and health care professionals about panic disorder. Discussed here are the causes, definition, and symptoms of the disorder. Panic attacks, which can seriously interfere with a person's life, may strike more than three million U.S. citizens at some time in their lives. Individuals who suffer panic attacks may also develop phobias, especially agoraphobia, in which a person avoids places or situations where help may not be forthcoming if an attack occurs. Treatment, it is claimed, can bring significant relief to 70 to 90 percent of people with panic disorder. Several kinds of treatment approaches, by themselves or in combination, may be effective: (1) cognitive-behavioral therapy, where the person modifies or eliminates troublesome thought patterns and behaviors; (2) pharmacotherapy, in which prescription medication is used both to prevent panic attacks or reduce their frequency and severity; and (3) psychodynamic therapy, where the therapist and the patient work together to uncover emotional conflicts which may underlie the patient's problems. Other conditions may accompany a panic disorder and health care personnel should be careful to identify these. The reader will find strategies and tips on how to cope with a panic attack, as well as information on where individuals may seek further help. (RJM)

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UNDERSTANDING PANIC DISORDER

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Message from the National Institute of Mental Health

Research conducted and supported by the National Institute of Mental Health (NIMH) brings hope to millions of people who suffer from mental illness and to their families and friends. In many years of work with animals as well as human subjects, researchers have advanced our understanding of the brain and vastly expanded the capability of mental health professionals to diagnose, treat, and prevent mental and brain disorders.

Now, in the 1990s, which the President and Congress have declared the "Decade of the Brain," we stand at the threshold of a new era in brain and behavioral sciences. Through research in animals and humans, we will learn even more about mental disorders such as depression, manic-depressive illness, schizophrenia, panic disorder, and obsessive-compulsive disorder. And we will be able to use this knowledge to develop new therapies that can help more people overcome mental illness.

The National Institute of Mental Health is part of the National Institutes of Health (NIH), the Federal Government's primary agency for biomedical and behavioral research. NIH is a component of the U.S. Department of Health and Human Services.

This booklet is provided by the NIMH Panic Disorder Education Program.
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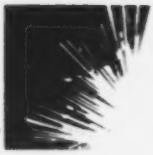
UNDERSTANDING PANIC DISORDER

Fear. . . heart palpitations. . . terror, a sense of impending doom. . . dizziness. . . fear of fear. The words used to describe panic disorder are often frightening. But there is great hope: Treatment can benefit virtually everyone who has this condition. It is extremely important for the person who has panic disorder to learn about the problem and the availability of effective treatments and to seek help.

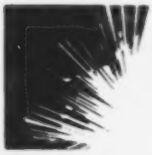
The encouraging progress in the treatment of panic disorder reflects recent, rapid advances in scientific understanding of the brain. In fact, the President and the U.S. Congress have declared the 1990s the Decade of the Brain. In addition to supporting intensified research on brain disorders, the Federal Government is working to bring information about these conditions to the people who need it.

The National Institute of Mental Health (NIMH), the Federal agency responsible for conducting and supporting research related to mental disorders, mental health, and the brain, is conducting a nationwide education program on panic disorder. The program's purpose is to educate the public and health care professionals about the disorder and encourage people with it to obtain effective treatments.



What is panic disorder?

In panic disorder, brief episodes of intense fear are accompanied by multiple physical symptoms (such as heart palpitations and dizziness) that occur repeatedly and unexpectedly in the absence of any external threat. These "panic attacks," which are the hallmark of panic disorder, are believed to occur when the brain's normal mechanism for reacting to a threat—the so-called "fight or flight" response—becomes inappropriately aroused. Most people with panic disorder also feel anxious about the possibility of having another panic attack and avoid situations in which they believe these attacks are likely to occur. Anxiety about another attack, and the avoidance it causes, can lead to disability in panic disorder.



Who has panic disorder?

In the United States, 1.6 percent of the adult population, or more than 3 million people, will have panic disorder at some time in their lives. The disorder typically begins in young adulthood, but older people and children can be affected. Women are affected twice as frequently as men. While people of all races and social classes can have panic disorder, there appear to be cultural differences in how individual symptoms are expressed.

Symptoms and course of panic disorder

Initial panic attack. Typically, a first panic attack seems to come "out of the blue," occurring while a person is engaged in some ordinary activity like driving a car or walking to work. Suddenly, the person is struck by a barrage of frightening and uncomfortable symptoms. These symptoms often include terror, a sense of unreality, or a fear of losing control.

Panic Attack Symptoms

During a panic attack, some or all of the following symptoms occur:

- Terror—a sense that something unimaginably horrible is about to happen and one is powerless to prevent it
- Racing or pounding heartbeat
- Chest pains
- Dizziness, lightheadedness, nausea
- Difficulty breathing
- Tingling or numbness in the hands
- Flushes or chills
- Sense of unreality
- Fear of losing control, going "crazy," or doing something embarrassing
- Fear of dying

This barrage of symptoms usually lasts several seconds, but may continue for several minutes. The symptoms gradually fade over the course of about an hour. People who have experienced a panic attack can attest to the extreme discomfort they felt and to their fear that they had been stricken with some terrible, life-threatening disease or were "going crazy." Often people who are having a panic attack seek help at a hospital emergency room.

Initial panic attacks may occur when people are under considerable stress, from an overload of work, for example, or from the loss of a family member or close friend. The attacks may also follow surgery, a serious accident, illness, or childbirth. Excessive consumption of caffeine or use of cocaine or other stimulant drugs or medicines, such as the stimulants used in treating asthma, can also trigger panic attacks.

Nevertheless panic attacks usually take a person completely by surprise. This unpredictability is one reason they are so devastating.

Sometimes people who have never had a panic attack assume that panic is just a matter of feeling nervous or anxious—the sort of feelings that everyone is familiar with. In fact, even though people who have panic attacks may not show any outward signs of discomfort, the feelings they experience are so overwhelming and terrifying that they really believe they are going to die, lose their minds, or be totally humiliated. These disastrous consequences don't occur, but they seem quite likely to the person who is suffering a panic attack.

Some people who have one panic attack, or an occasional attack, never develop a problem serious enough to affect their lives. For others, however, the attacks continue and cause much suffering.

Panic disorder. In panic disorder, panic attacks recur and the person develops an intense apprehension of having another attack. As noted earlier, this fear—called *anticipatory anxiety* or *fear of fear*—can be present most of the time and seriously interfere with the person's life even when a panic attack is not in progress. In addition, the person may develop irrational fears called *phobias* about situations where a panic attack has occurred. For example, someone who has had a panic attack while driving may be afraid to get behind the wheel again, even to drive to the grocery store.

People who develop these panic-induced phobias will tend to avoid situations that they fear will trigger a panic attack, and their lives may be increasingly limited as a result. Their work may suffer because they can't travel or get to work on time. Relationships may be strained or marred by conflict as panic attacks, or the fear of them, rule the affected person and those close to them.

Also, sleep may be disturbed because of panic attacks that occur at night, causing the person to awaken in a state of terror. The experience is so harrowing that some people who have nocturnal panic attacks become afraid to go to sleep and suffer from exhaustion. Also, even if there are no nocturnal panic attacks, sleep may be disturbed because of chronic, panic-related anxiety.

Many people with panic disorder remain intensely concerned about their symptoms even after an initial visit to a physician yields no indication of a life-threatening condition. They may visit a succession of doctors seeking medical treatment for what they believe is heart disease or a respiratory problem. Or their symptoms may make them think they have a neurological disorder or some serious gastrointestinal condition. Some patients see as many as 10 doctors and undergo a succession of expensive and unnecessary tests in the effort to find out what is causing their symptoms.

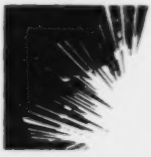
This search for medical help may continue a long time, because physicians who see these patients frequently fail to diagnose panic disorder. When doctors do recognize the condition, they sometimes

explain it in terms that suggest it is of no importance or not treatable. For example, the doctor may say, "There's nothing to worry about, you're just having a panic attack" or "It's just nerves." Although meant to be reassuring, such words can be dispiriting to the worried patient whose symptoms keep recurring. The patient needs to know that the doctor acknowledges the disabling nature of panic disorder and that it can be treated effectively.

Agoraphobia. Panic disorder may progress to a more advanced stage in which the person becomes afraid of being in any place or situation where escape might be difficult or help unavailable in the event of a panic attack. This condition is called *agoraphobia*. It affects about a third of all people with panic disorder.

Typically, people with agoraphobia fear being in crowds, standing in line, entering shopping malls, and riding in cars or public transportation. Often, these people restrict themselves to a "zone of safety" that may include only the home or the immediate neighborhood. Any movement beyond the edges of this zone creates mounting anxiety. Sometimes a person with agoraphobia is unable to leave home alone, but can travel if accompanied by a particular family member or friend. Even when they restrict themselves to "safe" situations, most people with agoraphobia continue to have panic attacks at least a few times a month.

People with agoraphobia can be seriously disabled by their condition. Some are unable to work, and they may need to rely heavily on other family members, who must do the shopping and run all the household errands, as well as accompany the affected person on rare excursions outside the "safety zone." Thus the person with agoraphobia typically leads a life of extreme dependency as well as great discomfort.



Treatment for panic disorder

Treatment can bring significant relief to 70 to 90 percent of people with panic disorder, and early treatment can help keep the disease from progressing to the later stages where agoraphobia develops.

Before undergoing any treatment for panic disorder, a person should undergo a thorough medical examination to rule out other possible causes of the distressing symptoms. This is necessary because a number of other conditions, such as excessive levels of thyroid

hormone, certain types of epilepsy, or cardiac arrhythmias, which are disturbances in the rhythm of the heartbeat, can cause symptoms resembling those of panic disorder.

Several effective treatments have been developed for panic disorder and agoraphobia. In 1991, a conference held at the National Institutes of Health (NIH) under the sponsorship of the National Institute of Mental Health and the Office of Medical Applications of Research, surveyed the available information on panic disorder and its treatment. The conferees concluded that a form of psychotherapy called cognitive-behavioral therapy and medications are both effective for panic disorder. A treatment should be selected according to the individual needs and preferences of the patient, the panel said, and any treatment that fails to produce an effect within 6 to 8 weeks should be reassessed.

Cognitive-behavioral therapy. This is a combination of *cognitive therapy*, which can modify or eliminate thought patterns contributing to the patient's symptoms, and *behavioral therapy*, which aims to help the patient to change his or her behavior.

Typically the patient undergoing cognitive-behavioral therapy meets with a therapist for 1 to 3 hours a week. In the cognitive portion of the therapy, the therapist usually conducts a careful search for the thoughts and feelings that accompany the panic attacks. These mental events are discussed in terms of the "cognitive model" of panic attacks.

The cognitive model states that individuals with panic disorder often have distortions in their thinking, of which they may be unaware, and these may give rise to a cycle of fear. The cycle is believed to operate this way: First the individual feels a potentially worrisome sensation such as an increasing heart rate, tightened chest muscles, or a queasy stomach. This sensation may be triggered by some worry, an unpleasant mental image, a minor illness, or even exercise. The person with panic disorder responds to the sensation by becoming anxious. The initial anxiety triggers still more unpleasant sensations, which in turn heighten anxiety, giving rise to catastrophic thoughts. The person thinks "I am having a heart attack" or "I am going insane," or some similar thought. As the vicious cycle continues, a panic attack results. The whole cycle might take only a few seconds, and the individual may not be aware of the initial sensations or thoughts.

Proponents of this theory point out that, with the help of a skilled therapist, people with panic disorder often can learn to recognize the earliest thoughts and feelings in this sequence and modify their responses to them. Patients are taught that typical thoughts such as "That terrible feeling is getting worse!" or "I'm going to have a panic

Strategies for Coping with Panic

1. Remember that although your feelings and symptoms are very frightening, they are not dangerous or harmful.
2. Understand that what you are experiencing is just an exaggeration of your normal bodily reactions to stress.
3. Do not fight your feelings or try to wish them away. The more you are willing to face them, the less intense they will become.
4. Do not add to your panic by thinking about what "might" happen. If you find yourself asking "What if?" tell yourself "So what!"
5. Stay in the present. Notice what is really happening to you as opposed to what you think might happen.
6. Label your fear level from zero to ten and watch it go up and down. Notice that it does not stay at a very high level for more than a few seconds.
7. When you find yourself thinking about the fear, change your "what if" thinking. Focus on and carry out a simple and manageable task such as counting backwards from 100 by 3's or snapping a rubber band on your wrist.
8. Notice that when you stop adding frightening thoughts to your fear, it begins to fade.
9. When the fear comes, expect and accept it. Wait and give it time to pass without running away from it.
10. Be proud of yourself for your progress thus far, and think about how good you will feel when you succeed this time.

Courtesy Jerilyn Ross, M.A., L.I.C.S.W., The Ross Center for Anxiety and Related Disorders, Inc., Washington, DC
Adapted from Mathews ***et al.,*** *1981.*

attack" or "I'm going to have a heart attack" can be replaced with substitutes such as "It's only uneasiness—it will pass" that help to reduce anxiety and ward off a panic attack. Specific procedures for accomplishing this are taught. By modifying thought patterns in this way, the patient gains more control over the problem.

Often the therapist will provide the patient with simple guidelines to follow when he or she can feel that a panic attack is approaching. One therapist has offered a set of strategies that have helped some of her patients to cope with panic attacks.

In cognitive therapy, discussions between the patient and the therapist are not usually focused on the patient's past, as is the case with some forms of psychotherapy. Instead, conversations focus on the difficulties and successes the patient is having at the present time, and on skills the patient needs to learn.

The behavioral portion of cognitive-behavioral therapy may involve systematic training in relaxation techniques. By learning to relax, the patient may acquire the ability to reduce generalized anxiety and stress that often sets the stage for panic attacks.

Breathing exercises are often included in the behavioral therapy. The patient learns to control his or her breathing and avoid *hyperventilation*—a pattern of rapid, shallow breathing that can trigger or exacerbate some people's panic attacks.

Another important aspect of behavioral therapy is exposure to internal sensations called *interoceptive exposure*. During interoceptive exposure the therapist will do an individual assessment of internal sensations associated with panic. Depending on the assessment, the therapist may then encourage the patient to bring on some of the sensations of a panic attack by, for example, exercising to increase heart rate, breathing rapidly to trigger lightheadedness and respiratory symptoms, or spinning around to trigger dizziness. Exercises to produce feelings of unreality may also be used. Then the therapist teaches the patient to cope effectively with these sensations and to replace alarmist thoughts such as "I am going to die," with more appropriate ones, such as "It's just a little dizziness—I can handle it."

Another important aspect of behavioral therapy is *"in vivo"* or *real-life exposure*. The therapist and the patient determine whether the patient has been avoiding particular places and situations, and which patterns of avoidance are causing the patient problems. They agree to work on the avoidance behaviors that are most seriously interfering with the patient's life. For example, fear of driving may be of paramount importance for one patient, while inability to go to the grocery store may be most handicapping for another.

Some therapists will go to an agoraphobic patient's home to conduct the initial sessions. Often therapists take their patients on excursions to shopping malls and other places the patients have been avoiding. Or they may accompany their patients who are trying to overcome fear of driving a car.

The patient approaches a feared situation gradually, attempting to stay in spite of rising levels of anxiety. In this way the patient sees that

as frightening as the feelings are, they are not dangerous, and they do pass. On each attempt, the patient faces as much fear as he or she can stand. Patients find that with this step-by-step approach, aided by encouragement and skilled advice from the therapist, they can gradually master their fears and enter situations that had seemed unapproachable.

Many therapists assign the patient "homework" to do between sessions. Sometimes patients spend only a few sessions in one-on-one contact with a therapist and continue to work on their own with the aid of a printed manual.

Often the patient will join a therapy group with others striving to overcome panic disorder or phobias, meeting with them weekly to discuss progress, exchange encouragement, and receive guidance from the therapist.

Cognitive-behavioral therapy generally requires at least 8 to 12 weeks. Some people may need a longer time in treatment to learn and implement the skills. This kind of therapy, which is reported to have a low relapse rate, is effective in eliminating panic attacks or reducing their frequency. It also reduces anticipatory anxiety and the avoidance of feared situations.

Treatment with medications. In this treatment approach, which is also called *pharmacotherapy*, a prescription medication is used both to prevent panic attacks or reduce their frequency and severity, and to decrease the associated anticipatory anxiety. When patients find that their panic attacks are less frequent and severe, they are increasingly able to venture into situations that had been off-limits to them. In this way, they benefit from exposure to previously feared situations as well as from the medication.

The three groups of medications most commonly used are the *tricyclic antidepressants*, the *high-potency benzodiazepines*, and the *monoamine oxidase inhibitors* (MAOIs). Determination of which drug to use is based on considerations of safety, efficacy, and the personal needs and preferences of the patient. Some information about each of the classes of drugs follows.

The tricyclic antidepressants were the first medications shown to have a beneficial effect against panic disorder. Imipramine is the tricyclic most commonly used for this condition. When imipramine is prescribed, the patient usually starts with small daily doses that are increased every few days until an effective dosage is reached. The slow introduction of imipramine helps minimize side effects such as dry mouth, constipation, and blurred vision. People with panic disorder, who are inclined to be hypervigilant about physical sensations, often find these side effects disturbing at the outset.

Side effects usually fade after the patient has been on the medication a few weeks.

It usually takes several weeks for imipramine to have a beneficial effect on panic disorder. Most patients treated with imipramine will be panic-free within a few weeks or months. Treatment generally lasts from 6 to 12 months. Treatment for a shorter period of time is possible, but there is substantial risk that when imipramine is stopped, panic attacks will recur. Extending the period of treatment to 6 months to a year may reduce this risk of a relapse. When the treatment period is complete, the dosage of imipramine is tapered over a period of several weeks.

The high-potency benzodiazepines are a class of medications that effectively reduce anxiety. Alprazolam, clonazepam, and lorazepam are medications that belong to this class. They take effect rapidly, have few bothersome side-effects, and are well tolerated by the majority of patients. However, some patients, especially those who have had problems with alcohol or drug dependency, may become dependent on benzodiazepines.

Generally, the physician prescribing one of these drugs starts the patient on a low dose and gradually raises it until panic attacks cease. This procedure minimizes side effects.

Treatment with high-potency benzodiazepines is usually continued for 6 months to a year. One drawback of these medications is that patients may experience withdrawal symptoms—malaise, weakness, and other unpleasant effects—when the treatment is discontinued. Reducing the dose gradually generally minimizes these problems. There may also be a recurrence of panic attacks after the medication is withdrawn.

Of the MAOIs, a class of antidepressants which have been shown to be effective against panic disorder, phenelzine is the most commonly used. Treatment with phenelzine usually starts with a relatively low daily dosage that is increased gradually until panic attacks cease or the patient reaches a maximum dosage of about 100 milligrams a day.

Use of phenelzine or any other MAOI requires the patient to observe exacting dietary restrictions, because there are foods and prescription drugs and certain substances of abuse that can interact with the MAOI to cause a sudden, dangerous rise in blood pressure. All patients who are taking MAOIs should obtain their physician's guidance concerning dietary restrictions and should consult with their physician before using any over-the-counter or prescription medications.

As in the case of the high-potency benzodiazepines and imipramine, treatment with phenelzine or another MAOI generally lasts 6 months

What to Do if a Family Member Has an Anxiety Disorder

1. Don't make assumptions about what the affected person needs; ask them.
2. Be predictable; don't surprise them.
3. Let the person with the disorder set the pace for recovery.
4. Find something positive in every experience. If the affected person is only able to go partway to a particular goal, such as a movie theater or party, consider that an achievement rather than a failure.
5. Don't enable avoidance: negotiate with the person with panic disorder to take one step forward when he or she wants to avoid something.
6. Don't sacrifice your own life and build resentments.
7. Don't panic when the person with the disorder panics.
8. Remember that it's all right to be anxious yourself; it's natural for you to be concerned and even worried about the person with panic disorder.
9. Be patient and accepting, but don't settle for the affected person being permanently disabled.
10. Say: "You can do it no matter how you feel. I am proud of you. Tell me what you need now. Breathe slow and low. Stay in the present. It's not the place that's bothering you, it's the thought. I know that what you are feeling is painful, but it's not dangerous. You are courageous."

Don't say: "Relax. Calm down. Don't be anxious. Let's see if you can do this (i.e., setting up a test for the affected person). You can fight this. What should we do next? Don't be ridiculous. You *have* to stay. Don't be a coward."

Adapted from Sally Winston, Psy.D., The Anxiety and Stress Disorders Institute of Maryland, Towson, MD, 1992.

to a year. At the conclusion of the treatment period, the medication is gradually tapered.

Newly available antidepressants such as fluoxetine (one of a class of new agents called serotonin reuptake inhibitors), appear to be effective in selected cases of panic disorder. As with other anti-panic medications, it is important to start with very small doses and gradually raise the dosage.

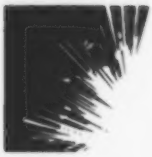
Scientists supported by NIMH are seeking ways to improve drug treatment for panic disorder. Studies are underway to determine the optimal duration of treatment with medications, who they are most likely to help, and how to moderate problems associated with withdrawal.

Combination treatments. Many believe that a combination of medication and cognitive-behavioral therapy represents the best alternative for the treatment of panic disorder. The combined approach is said to offer rapid relief, high effectiveness, and a low relapse rate. However, there is a need for more research studies to determine whether this is in fact the case.

Comparing medications and psychological treatments, and determining how well they work in combination, is the goal of several NIMH-supported studies. The largest of these is a 4-year clinical trial that will include 480 patients and involve four centers at the State University of New York at Albany, Cornell University, Hillside Hospital/Columbia University, and Yale University. This study is designed to determine how treatment with imipramine compares with a cognitive-behavioral approach, and whether combining the two yields benefits over either method alone.

Psychodynamic treatment. This is a form of "talk therapy" in which the therapist and the patient, working together, seek to uncover emotional conflicts that may underlie the patient's problems. By talking about these conflicts and gaining a better understanding of them, the patient is helped to overcome the problems. Often, psychodynamic treatment focuses on events of the past and making the patient aware of the ramifications of long-buried problems.

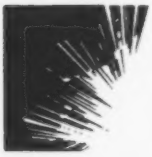
Although psychodynamic approaches may help to relieve the stress that contributes to panic attacks, they do not seem to stop the attacks directly. In fact, there is no scientific evidence that this form of therapy by itself is effective in helping people to overcome panic disorder or agoraphobia. However, if a patient's panic disorder occurs along with some broader and pre-existing emotional disturbance, psychodynamic treatment may be a helpful addition to the overall treatment program.



When panic recurs

Panic disorder is often a chronic, relapsing illness. For many people, it gets better at some times and worse at others. If a person gets treatment, and appears to have largely overcome the problem, it can still worsen later for no apparent reason. These recurrences should not cause a person to despair or consider himself or herself a "treatment failure." Recurrences can be treated effectively, just like an initial episode.

In fact, the skills that a person learns in dealing with the initial episode can be helpful in coping with any setbacks. Many people who have overcome panic disorder once or a few times find that, although they still have an occasional panic attack, they are now much better able to deal with the problem. Even though it is not fully cured, it no longer dominates their lives, or the lives of those around them.



Coexisting conditions

At the NIH conference on panic disorder, the panel recommended that patients be carefully evaluated for other conditions that may be present along with panic disorder. These may influence the choice of treatment, the panel noted. Among the conditions that are frequently found to coexist with panic disorder are:

Simple phobias. People with panic disorder often develop irrational fears of specific events or situations that they associate with the possibility of having a panic attack. Fear of heights and fear of crossing bridges are examples of simple phobias. Generally, these fears can be resolved through repeated exposure to the dreaded situations, while practicing specific cognitive-behavioral techniques to become less sensitive to them.

Social phobia. This is a persistent dread of situations in which the person is exposed to possible scrutiny by others and fears acting in

a way that will be embarrassing or humiliating. Social phobia can be treated effectively with cognitive-behavioral therapy or medications, or both.

Depression. About half of panic disorder patients will have an episode of clinical depression sometime during their lives. Major depression is marked by persistent sadness or feelings of emptiness, a sense of hopelessness, and other symptoms (see box).

When major depression occurs, it can be treated effectively with one of several antidepressant drugs, or, depending on its severity, by cognitive-behavioral therapies.

Obsessive-compulsive disorder (OCD). In OCD, a person becomes trapped in a pattern of repetitive thoughts and behaviors that are senseless and distressing but extremely difficult to overcome. Such rituals as counting, prolonged handwashing, and repeatedly checking for danger may occupy much of the person's time and interfere with other activities. Today, OCD can be treated effectively with medications or cognitive-behavioral therapies.

Alcohol abuse. About 30 percent of people with panic disorder abuse alcohol. A person who has alcoholism in addition to panic

Symptoms of Depression

- Persistent sadness or feelings of emptiness
- A sense of hopelessness
- Feelings of guilt
- Problems sleeping
- Loss of interest or pleasure in ordinary activities
- Fatigue or decreased energy
- Difficulty concentrating, remembering, and making decisions

disorder needs specialized care for the alcoholism along with treatment for the panic disorder. Often the alcoholism will be treated first.

Drug abuse. As in the case of alcoholism, drug abuse is more common in people with panic disorder than in the population at large. In fact, about 17 percent of people with panic disorder abuse drugs. The drug problems often need to be addressed prior to treatment for panic disorder.

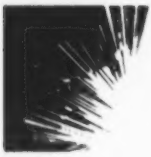
Suicidal tendencies. Recent studies in the general population have suggested that suicide attempts are more common among people who have panic attacks than among those who do not have a mental disorder. Also, it appears that people who have both panic disorder and depression are at elevated risk for suicide. (However, anxiety disorder experts who have treated many patients emphasize that it is extremely unlikely that anyone would attempt to harm himself or herself during a panic attack.)

Anyone who is considering suicide needs immediate attention from a mental health professional or from a school counselor, physician, or member of the clergy. With appropriate help and treatment, it is possible to overcome suicidal tendencies.

There are also certain physical conditions that are often associated with panic disorder:

Irritable bowel syndrome. The person with this syndrome experiences intermittent bouts of gastrointestinal cramps and diarrhea or constipation, often occurring during a period of stress. Because the symptoms are so pronounced, panic disorder is often not diagnosed when it occurs in a person with irritable bowel syndrome.

Mitral valve prolapse. This condition involves a defect in the mitral valve, which separates the two chambers on the left side of the heart. Each time the heart muscle contracts in people with this condition, tissue in the mitral valve is pushed for an instant into the wrong chamber. The person with the disorder may experience chest pain, rapid heartbeat, breathing difficulties, and headache. People with mitral valve prolapse may be at higher than usual risk of having panic disorder, but many experts are not convinced this apparent association is real.



Causes of panic disorder

The National Institute of Mental Health supports a sizable and multifaceted research program on panic disorder—its causes, diagnosis, treatment, and prevention. This research involves studies of panic disorder in human subjects and investigations of the biological basis for anxiety and related phenomena in animals. It is part of a massive effort to overcome the major mental disorders, an effort that is taking place during the 1990s—the Decade of the Brain. Here is a description of some of the most important new research on panic disorder and its causes.

Genetics. Panic disorder runs in families. One study has shown that if one twin in a genetically identical pair has panic disorder, it is likely that the other twin will also. Fraternal, or non-identical, twin pairs do not show this high degree of "concordance" with respect to panic disorder. Thus, it appears that some genetic factor, in combination with environment, may be responsible for vulnerability to this condition.

NIMH-supported scientists are studying families in which several individuals have panic disorder. The aim of these studies is to identify the specific gene or genes involved in the condition. Identification of these genes may lead to new approaches for diagnosing and treating panic disorder.

Brain and biochemical abnormalities. One line of evidence suggests that panic disorder may be associated with increased activity in the hippocampus and locus ceruleus, portions of the brain that monitor external and internal stimuli and control the brain's responses to them. Also, it has been shown that panic disorder patients have increased activity in a portion of the nervous system called the adrenergic system, which regulates such physiological functions as heart rate and body temperature. However, it is not clear whether these increases reflect the anxiety symptoms or whether they cause them.

Another group of studies suggests that people with panic disorder may have abnormalities in their benzodiazepine receptors, brain components that react with anxiety-reducing substances within the brain.

In conducting their research, scientists can use several different techniques to provoke panic attacks in people who have panic disorder. The best known method is intravenous administration of sodium lactate, the same chemical that normally builds up in the muscles during heavy exercise. Other substances that can trigger panic attacks in susceptible people include caffeine (generally 5 or more cups of coffee are required). Hyperventilation and breathing air with a higher-than-usual level of carbon dioxide can also trigger panic attacks in people with panic disorder.

Because these provocations generally do *not* trigger panic attacks in people who do *not* have panic disorder, scientists have inferred that individuals who have panic disorder are biologically different in some way from people who do not. However, it is also true that when the people prone to panic attacks are told in advance about the sensations these provocations will cause, they are much less likely to panic. This suggests that there is a strong psychological component, as well as a biological one, to panic disorder.

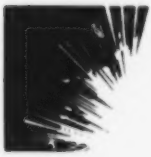
NIMH-supported investigators are examining specific parts of the brain and central nervous system to learn which ones play a role in panic disorder, and how they may interact to give rise to this condition. Other studies funded by the Institute are under way to determine what happens during "provoked" panic attacks, and to investigate the role of breathing irregularities in anxiety and panic attacks.

Animal studies. Studies of anxiety in animals are providing NIMH-sponsored researchers with clues to the underlying causes of this phenomenon. One series of studies involves an inbred line of pointer dogs that exhibit extreme, abnormal fearfulness when approached by humans or startled by loud noises. In contrast with normal pointers, these nervous dogs have been found to react more strongly to caffeine and to have brain tissue that is richer in receptors for adenosine, a naturally occurring sedative that normally exerts a calming effect within the brain. Further study of these animals is expected to reveal how a genetic predisposition toward anxiety is expressed in the brain.

Other animal studies involve macaque monkeys. Some of these animals exhibit anxiety when challenged with an infusion of lactate, much like people with panic disorder. Other macaques do not exhibit this response. NIMH-supported scientists are attempting to determine how the brains of the responsive and non-responsive monkeys differ. This research should provide additional information on the causes of panic disorder.

In addition, research with rats is exploring the effect of various medications on the parts of the brain involved in anxiety. The aim is to develop a clearer picture of which components of the brain are responsible for anxiety, and to learn how their actions can be brought under better control.

Cognitive factors. Scientists funded by NIMH are investigating the basic thought processes and emotions that come into play during a panic attack and those that contribute to the development and persistence of agoraphobia. The Institute also supports research evaluating the impact of various versions of cognitive-behavioral therapy to determine which variants of the procedure are effective for which people. The NIMH panic disorder research program will also explore the effects of interpersonal stress such as marital conflict on panic disorder with agoraphobia and determine if including spouses in the cognitive-behavioral treatment of the condition improves outcome.



Finding help for panic disorder

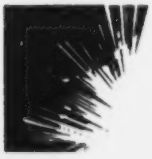
Often the person with panic disorder must undertake a strenuous search to find a therapist who is familiar with the most effective treatments for the condition. A list of places to start follows. The Anxiety Disorders Association of America can provide a list of professionals in your area who specialize in the treatment of panic disorder and other anxiety disorders.

Self-help and *support groups* are the least expensive approach to managing panic disorder, and are helpful for some people. A group of about 5 to 10 people meet weekly and share their experiences, encouraging each other to venture into feared situations and cope effectively with panic attacks. Group members are in charge of the sessions. Often family members are invited to attend these groups, and at times a therapist or other panic disorder expert may be brought in to share insights with group members. Information on self-help groups in specific areas of the country can be obtained from the Anxiety Disorders Association of America.

Sources of Referral to Professional Help for Panic Disorder

Here are the types of people and places that will make a referral to, or provide, diagnostic and treatment services for a person with symptoms resembling those described in this brochure. Also check the *Yellow Pages* under "mental health," "health," "anxiety," "suicide prevention," "hospitals," "physicians," "psychiatrists," "psychologists," or "social workers" for phone numbers and addresses.

- Family doctors
- Mental health specialists, such as psychiatrists, psychologists, social workers, or mental health counselors
- Health maintenance organizations
- Community mental health centers
- Hospital psychiatry departments and outpatient clinics
- University- or medical school-affiliated programs and clinics
- State hospital outpatient clinics
- Family service/social agencies
- Private clinics and facilities
- Employee assistance programs
- Local medical, psychiatric, or psychological societies



Help for the family

When one member of a family has panic disorder, the entire family is affected by the condition. Family members may be frustrated in their attempts to help the affected member cope with the disorder, overburdened by taking on additional responsibilities, and socially isolated. Family members must encourage the person with panic

disorder to seek the help of a qualified mental health professional. Also, it is often helpful for family members to attend an occasional treatment or self-help session or seek the guidance of the therapist in dealing with their feelings about the disorder.

Certain strategies, such as encouraging the person with panic disorder to go at least partway toward a place or situation that is feared, can be helpful. The director of one anxiety disorder clinic has developed a list of suggestions for family members who want to help loved ones cope with an anxiety disorder (see box on page 11). By their skilled and caring efforts to help, family members can aid the person with panic disorder in making a recovery.

Also, it may be valuable for family members to join or form a support group to share information and offer mutual encouragement.

For More Information on Panic Disorder and Related Conditions

American Psychiatric Association
1400 K Street, N.W.
Washington, DC 20005

American Psychological Association
750 First Street, N.E.
Washington, DC 20002

Anxiety Disorders Association of America
6000 Executive Blvd.,
Suite 513
Rockville, MD 20852

Association for the Advancement of Behavior Therapy
305 7th Avenue
New York, NY 10001

National Alliance for the Mentally Ill
2101 Wilson Blvd.,
Suite 302
Arlington, VA 22201

National Anxiety Foundation
3135 Custer Drive
Lexington, KY 40517-4001

National Depressive and Manic Depressive Association
740 North Franklin Street
Suite 501
Chicago, IL 60601

National Institute of Mental Health
Publications List
Room 7C-02
5600 Fishers Lane
Rockville, MD 20857

National Mental Health Association
1201 Prince Street
Alexandria, VA
22314-2971

References

Barlow, D.H., and Craske, M.G. *Mastery of Your Anxiety and Panic*. Albany, NY: Graywind Publications, 1988.

Beck, A.T.; Emery, G.; and Greenberg, R. *Anxiety Disorders and Phobias: A Cognitive Perspective*. New York: Basic Books, 1985.

Gold, M.S. *The Good News About Panic, Anxiety, and Phobias*. New York: Bantam, 1989.

Greist, J.H., and Jefferson, J.W. *Panic Disorder and Agoraphobia: A Guide*. Madison, WI: Anxiety Disorders Center and Information Centers, University of Wisconsin, 1992.

Hecker, J.E., and Thorpe, G.L. *Agoraphobia and Panic: A Guide to Psychological Treatment*. Needham Heights, MA: Allyn and Bacon, 1992.

Katon, W. *Panic Disorder in the Medical Setting*. DHHS Pub. No. (ADM) 92-1629. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1992.

Kernodle, W.D. *Panic Disorder*. Richmond, VA: William Byrd Press, 1991.

Klerman, G.L., *et al.*, eds. *Panic Anxiety and Its Treatments*. Washington, DC: American Psychiatric Press, 1993.

Mathews, A.M.; Gelder, M.G.; and Johnston, D.W. *Agoraphobia: Nature and Treatment*. New York and London: Guilford Press, 1981.

National Institutes of Health. NIH Consensus Development Conference Statement, Vol. 9, No. 2. *Treatment of Panic Disorder*. Bethesda, MD: NIH, September 1991.

Rachman, S., and Maser, J.D. *Panic: Psychological Perspectives*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1988.

Sheehan, D.V. *The Anxiety Disease*. New York: Bantam, 1986.

Wilson, R.R. *Don't Panic: Taking Control of Anxiety Attacks*. New York: Harper and Row, 1986.

Acknowledgments

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